

1. A composite wheel assembly comprising:

a wheel comprising an outboard surface thereon, said wheel further comprising a disc and a rim complementary to said disc, said rim having a rim flange circumscribing said disc and said rim, at least one of said disc, said rim, and said rim flange defining said outboard surface of said wheel;

a trim ring secured to said wheel, said trim ring covering at least a portion of said rim flange of said wheel; and

a cladding secured to said wheel, said cladding covering at least a portion of said disc of said wheel;

one of said trim ring and said cladding overlapping a portion of the other of said trim ring and said cladding in a complementary relationship, so that any radial dimensional variation in said trim ring and said cladding, with respect to said wheel, is taken up by said overlapping relationship.

2. The composite wheel assembly as claimed in claim 1, wherein said cladding overlaps said trim ring.

3. The composite wheel assembly as claimed in claim 1, wherein said trim ring overlaps said cladding.

4. The composite wheel assembly as claimed in claim 1, further comprising an adhesive deposited between said trim ring and said wheel.

5. A composite wheel assembly comprising:

a wheel having a central axis, said wheel comprising a disc and a rim flange circumscribing said disc wherein at least a portion of said disc and said rim flange define an outboard surface of said wheel, said rim flange circumscribing said central axis of said wheel, said rim flange comprising an axially outboard surface extending substantially radially outward, said rim flange further comprising a radially inner surface extending

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Cont → substantially axially outboard from said axially outboard surface, a radially outer surface substantially opposite said radially inner surface, and a flange lip connecting said radially inner and outer surfaces;

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a trim ring mounted to at least a portion of said outboard surface of said wheel, said trim ring comprising a flange portion covering at least a portion of said axially outboard surface of said rim flange of said wheel, said trim ring further comprising a lip portion extending from said flange portion, said lip portion being positioned over at least a portion of said flange lip of said rim flange of said wheel thereby substantially conforming to at least a portion of said outboard surface of said wheel, said lip portion comprising a radially inner wall at least partially covering said radially inner surface of said flange lip, said lip portion further comprising a radially outer wall opposite said radially inner wall and at least partially covering said radially outer surface of said flange lip, said lip portion further comprising an axially outboard wall between said radially inner and outer walls and at least partially covering said flange lip of said rim flange, whereby said trim ring covers at least portions of said axially outboard surface and said flange lip of said rim flange to provide a visible impression that said trim ring is a portion of said outboard surface of said wheel and not a separately attached component;

means for securing said trim ring to said wheel;

a cladding overlaying at least a portion of said outboard surface of said wheel, said cladding comprising an inboard surface facing at least a portion of said outboard surface of said wheel; and

means for securing said cladding to said wheel;

at least a portion of one of said trim ring and said cladding overlapping at least a portion of the other of said trim ring and said cladding in an overlapping relationship, so that any radial dimensional variation in said trim ring and said

cladding is taken up by said overlapping relationship so as to provide a continuous bright appearance across said outboard surface of said wheel.

6. The composite wheel assembly as claimed in claim 5, wherein said means for securing said trim ring to said wheel comprises an adhesive deposited between said trim ring and said wheel.

7. The composite wheel assembly as claimed in claim 5, wherein said means for securing said cladding to said wheel comprises:

an annular detent provided in said disc of said wheel; and

a plurality of protuberances extending axially inwardly from said inboard surface of said cladding, each of said plurality of protuberances resiliently engaging said annular detent of said disc of said wheel so as to secure said cladding to said outboard surface of said wheel, said plurality of protuberances causing said cladding to be centrally located with respect to said rim flange of said wheel and spaced from said outboard surface of said wheel so as to define at least one gap therebetween.

8. The composite wheel assembly as claimed in claim, 7 wherein said means for securing said cladding to said wheel further comprises an adhesive deposited between said cladding and said wheel.

9. The composite wheel assembly as claimed in claim 5, wherein said rim flange of said wheel further comprises an interlocking portion thereon and said trim ring further comprises an interlocking portion thereon, said means for securing said trim ring to said wheel comprising said interlocking portions of said trim ring and said rim flange being interlocked together.

10. The composite wheel assembly as claimed in claim 9, wherein said interlocking portion of said trim ring comprises an annular hem formed in said radially outer wall of said lip portion of said trim ring and said interlocking portion of said rim

flange of said wheel comprises an annular groove in said flange lip, whereby said annular hem engages said annular groove for securing said trim ring to said wheel.

11. The composite wheel assembly as claimed in claim 9, wherein said interlocking portion of said trim ring comprises an annular bead in said radially outer wall of said lip portion of said trim ring and said interlocking portion of said rim flange of said wheel comprises an annular groove in said radially outer surface of said rim flange of said rim flange, whereby said annular bead engages said annular groove for securing said trim ring to said wheel.

12. The composite wheel assembly as claimed in claim 9, wherein said interlocking portion of said trim ring comprises a hem portion in said radially outer wall of said lip portion of said trim ring, and said interlocking portion of said rim flange of said wheel comprises said radially outer wall being tapered to slope in a radially inwardly and axially inboard direction whereby said hem portion of said trim ring grippingly engages said flange lip of said rim flange of said wheel.

13. The composite wheel assembly as claimed in claim 5, wherein said radially outer wall of said rim flange of said rim flange is fully beveled to slope in a radially inwardly and axially outboard direction.

14. The composite wheel assembly as claimed in claim 5, wherein said radially outer wall of said rim flange includes a shoulder portion and is partially beveled to slope in a radially inwardly and axially outboard direction from said shoulder portion.

15. The composite wheel assembly as claimed in claim 5, wherein said radially outer wall of said lip portion of said trim ring comprises a wheel weight bead therein for retaining a wheel weight thereto.

16. The composite wheel assembly as claimed in claim 5, wherein at least a portion of said cladding overlaps at least a portion of said trim ring.

17. The composite wheel assembly as claimed in claim 5, wherein at least a portion of said trim ring overlaps at least a portion of said cladding.

18. The composite wheel assembly as claimed in claim 17, wherein said at least a portion of said trim ring comprises a radial projection that overlaps said at least a portion of said cladding.

19. The composite wheel assembly as claimed in claim 18, wherein said radially inner wall of said lip portion of said trim ring terminates in an axially extending tab portion.

20. The composite wheel assembly as claimed in claim 17, wherein said cladding comprises an annular groove therein and said trim ring comprises an annular projection that interlocks with said annular groove.

21. The composite wheel assembly as claimed in claim 5, wherein at least one of said trim ring and said cladding is surface treated and at least one of said trim ring and said cladding is painted so as to provide a two-tone appearance to said wheel.

22. The composite wheel assembly as claimed in claim 5, wherein said trim ring is composed of stainless steel and said cladding is composed of plastic.

23. The composite wheel assembly as claimed in claim 5, wherein said trim ring is composed of an aluminum alloy and said cladding is composed of plastic.

24. A wheel covering combination for covering a wheel to produce a composite wheel assembly, said wheel having a disc and a rim flange circumscribing said disc and a central axis of said wheel, said rim flange comprising an axially outboard surface extending substantially radially outward, said rim flange further comprising a radially inner surface extending substantially axially outboard from said axially outboard surface, a radially outer surface substantially opposite said radially inner surface, and a flange lip

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Contd. connecting said radially inner and outer surfaces, said wheel covering combination comprising:

a trim ring mounted to at least a portion of said rim flange of said wheel, said trim ring comprising a flange portion covering at least a portion of said axially outboard surface of said wheel, said trim ring further comprising a lip portion extending from said flange portion, said lip portion being positioned over at least a portion of said flange lip of said rim flange of said wheel thereby conforming to at least a portion of said outboard surface of said wheel to provide a visible impression that said trim ring is actually part of said wheel; and

a cladding overlaying at least a portion of said wheel, said cladding comprising an inboard surface complementary to and facing at least a portion of said outboard surface of said wheel, such that said cladding substantially conforms to at least a portion of said outboard surface of said wheel to provide a visible impression that said cladding is actually said outboard surface of said wheel;

at least a portion of one of said trim ring and said cladding overlapping at least a portion of the other of said trim ring and said cladding in a complementary relationship on said wheel, so that any radial dimensional variation in said trim ring and said cladding is taken up by said overlapping relationship and so as to provide a continuous bright appearance across said outboard surface of said wheel.

25. A method for producing a composite wheel assembly comprising the steps of:

providing a wheel, said wheel comprising a disc and a rim flange circumscribing said disc, at least a portion of said disc and rim flanges defining an outboard surface of said wheel, said rim flange comprising an axially outboard surface extending substantially radially outward, said rim flange further comprising a radially inner surface extending substantially axially outboard from said axially outboard surface, a radially outer

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Cont. → surface substantially opposite said radially inner surface, and a flange lip connecting said radially inner and outer surfaces;

providing a trim ring, said trim ring comprising a flange portion and a lip portion extending from said flange portion, said trim ring further comprising a predetermined inside diameter;

providing a cladding, said cladding comprising an inboard surface, said cladding further comprising a predetermined outside diameter wherein said predetermined outside diameter is greater than said predetermined inside diameter of said trim ring;

assembling said trim ring to said wheel such that said flange portion of said trim ring covers at least a portion of said rim flange of said wheel and said lip portion of said trim ring covers at least a portion of said flange lip of said wheel, whereby said trim ring covers at least a portion of said outboard surface of said wheel; and

assembling said cladding to said wheel such that said inboard surface of said cladding faces said outboard surface of said wheel, whereby said cladding overlays at least a portion of said outboard surface of said wheel;

one of said assembling steps including overlapping at least a portion of one of said trim ring and said cladding over at least a portion of the other of said trim ring and said cladding;

whereby at least a portion of one of said trim ring and said cladding overlap at least a portion of the other of said trim ring and said cladding in an overlapping relationship, so that any radial dimensional variation in said trim ring and said cladding is taken up by said overlapping relationship.

26. The method as claimed in claim 25, further comprising the step of:

applying an adhesive between said wheel and at least one of said trim ring and said cladding to secure the assembly of said composite wheel assembly.

27. The method as claimed in claim 25, wherein said step of assembling said cladding to said wheel comprises assembling at least a portion of said cladding in overlapping fashion with respect to at least a portion of said trim ring.

28. The method as claimed in claim 25, wherein said step of assembling said trim ring to said wheel comprises overlapping at least a portion of said trim ring with respect to at least a portion of said cladding.

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